

## iTHRIV Scholars Two-Year Program (sessions vary slightly by year)

### iTHRIV Scholars Program Core Curriculum

In addition to learning from conducting their proposed mentored iTHRIV research project, Scholars come together one afternoon a week to engage together in a core curriculum designed to prepare them for a future in clinical and/or translational health research. Our curriculum draws from [the core competencies identified for clinical and translational research](#) as well as the [fundamental characteristics of a translational scientist](#) with added emphasis on principles and practices of data science, the art and skill of writing good grants, scientific integrity and responsible research, peer mentoring, and professional development. The following chart depicts key threads along with examples of specific sessions from previous years where we have taken a “deeper dive” into those threads. The iTHRIV Scholars Program continues to diversify, and each year the Scholars receive a uniquely tailored version of the core curriculum. The delivery of this curriculum is heavily dependent on Scholar feedback as well as on the gaps and trajectories of each specific cohort of Scholars, and it is primarily delivered through a flipped classroom approach. The newly integrated Scholars Program includes Scholars from UVA and VTC and features instructors from UVA, Virginia Tech, Carilion Clinic, Center for Open Science, UVA Licensing and Ventures Group, and elsewhere. Currently we are using Zoom to gather together for our core sessions.

While we provide a wide variety of focused material through the core curriculum, Scholars elect to supplement this training with additional certificate programs or Master’s degrees as determined by their own professional development needs (for example, prior Scholars have pursued formal training programs in Data Science, Clinical Research, Regulatory Science and Implementation Science). Our curriculum team is always available to discuss these opportunities as well as the more specific details of the training we provide so that Scholars can make the most appropriate and efficient decisions for their career development plans.

<b>Data Science</b>	<p>Introduction to Data Science            Introduction to TriNetX            Introduction to Clinical Informatics            Principles of Data Visualization and Tableau            Data Visualization Workshop            Hackathon            Clean Data from Compliance to Computation: Data Provenance and Version Control in Excel</p> <p><b>Data Science/Computational T Course</b></p> <ul style="list-style-type: none"> <li>• Introduction to R</li> <li>• Data Manipulation/Management/Cleaning</li> <li>• Advanced Data Visualization with R and ggplot2</li> <li>• Data Science Refresher</li> <li>• Reproducible Research and Dynamic Documents/Essential Statistics</li> <li>• Survival Analysis and Predictive Modeling</li> <li>• Intro to RNA-seq Data Analysis</li> <li>• Bring Your Own Data (series)</li> </ul> <p>Data Integration and data integration repositories            History of data science and the development of the core domains of data science</p>
<b>Team Science</b>	<p>Introduction to the iTHRIV portal            Thriving in an Era of Team Science – Case Discussion            “Convergence and Team Science” as part of the Science of Team Science Virtual Conference</p>
<b>Community/ Policy</b>	<p>Community-Based Participatory Research            Health Policy Research and Practice            The Equity Coalition (Health Disparities Work in Progress)            Overview of THRIV/iTHRIV Community Engagement Efforts            “Equitable collaboration”: Promoting just processes to grow resilient communities, durable outcomes and accountable public spaces, as we help communities learn where they’ve been, meet them where they are, and shape where they need/want to go</p>
<b>Innovation and Commercialization</b>	<p>Principles and Practices of Licensing and Commercialization (series)            Commercialization and small business development for researchers and SBIR/STTR</p>

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<b>Rigor/ Transparency/ Reproducibility</b>	<p>Introduction to Open Science Philosophy and Practices  Overview and Workshop– Center for Open Science  Health Sciences Library Resource Overview  Introduction to Pre-Prints: the Good, the Bad, and the Ugly  Panel Discussion: Data Security, Compliance, Reproducibility, and Resources (COS, UVA, UVAHS, UVA HSL)</p>
<b>SCIENTIFIC INTEGRITY/ RESEARCH ETHICS/ STUDY DESIGN CHALLENGES</b>	<p>Big Data and Ethics  Clinical Translational Research Ethics – Scouting the Territory and Mapping the Landscape  Clinical Translational Research Ethics (Gelsinger Case)  Ethics in 15 Minutes (series), Translating E-15 to Your Workplace  <b>Study Design Challenges</b></p> <ul style="list-style-type: none"> <li>• Overview of Study Design</li> <li>• Adaptive Study Design</li> <li>• Study Design Challenge (Surgical Trials with Sham Surgery Arms with Cognitively Impaired Participants)</li> <li>• Implicit Bias and Study Design</li> </ul> <p>Biostatistics Refreshers (series)  FDA Therapeutics and the Need for Real World Evidence  <b>Principles and Practices to Ensure Ethical Human Subjects Research</b></p> <ul style="list-style-type: none"> <li>• Introduction to the IRB</li> <li>• IRB Meeting (attend)</li> <li>• IRB Meeting Debrief</li> <li>• Mock IRB Session</li> </ul> <p><b>Responsible Conduct of Research (RCR) Course</b></p> <ul style="list-style-type: none"> <li>• Intro to RCR and Research Misconduct</li> <li>• Authorship, Publication, and Peer Review</li> <li>• Data Management, Rigor, and Reproducibility</li> <li>• Collaborative Research and Conflicts of Interest</li> <li>• Research Integrity and Mentor/Trainee Responsibilities and Relationships</li> <li>• Research Involving Vertebrate Animals or Human Subjects</li> </ul> <p>Introduction to DSMBs and OSMBs  Conflict of Interest  Research Continuity/Impact of COVID-19 on Research</p>
<b>Grants</b>	<p>K and R Award Grant Writing and Preparation (series)  THRIV Grant Self Review (Career Development Mock Study Section)  K and R Mock Study Sections  VPR Office Proposal Development  NIH Proposal Development Webinar Series (6 plus materials)  Funding Sources: Foundations, DOD, NSF, etc.  Building Your Budget</p>
<b>PERSONAL AND PROFESSIONAL DEVELOPMENT AND LEADERSHIP SKILLS</b>	<p>Developmental Networks and Mentoring  Coaching – Getting Stuff Done and Enhancing Productivity  Your Brain at Work  Strength Finders  Writing Accountability Group (series)  Open House with THRIV PIs (monthly)  Individualized Learning Plans/Goal Setting –Implementing, Refining, and Holding Oneself Accountable  Cross-Grounds Resource Treasure Hunt  Building Your Translational Research Network (Interview Reports)  CV Review for Promotion and Tenure and Beyond  Resilience (series)  Immunity to Change  Peer mentoring – giving and receiving feedback</p> <ul style="list-style-type: none"> <li>• Presenting your research to your peers</li> <li>• Providing feedback to your peers</li> <li>• Bring Your Own Work in Progress (regular series)</li> </ul> <p>Working from Home – Perspectives from Across the Continuum of Translational and Home-Life Environments</p>

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<b>COMMUNICATION SKILLS (INTERPERSONAL AND TO AUDIENCES)</b>	<p>Ask Me About My Research - Communication Strategies (series)</p> <p>Healthy Dialogues</p> <p>THRIV Symposium Presentations (annual)</p> <p>Editor’s Corner</p> <p>Media Readiness Training</p> <p>Pitch Decks – Dry Run Presentations at LVG</p> <p>Pitch Decks - Formal Presentations at July Kickoff Session</p>
<b>MENTORING LUNCHEONS/ MENTORING HOUR</b>	<p>Cultivating Integrity in Your Research Team</p> <p>Independence in an Era of Team Science</p> <p>Imparting Grantsmanship Lessons Learned</p> <p>Education about NIH Peer Review – Helpful and Potentially Missing Resources</p> <p>Work/Life Balance</p> <p>Team Science</p> <p>Community-Based Participatory Research</p> <p>Concepts of Big Data and Ethics</p> <p>Health Policy Research and Practice</p> <p>Value of Effective Mentoring Relationships</p> <p>Lessons Learned (Work/Life Balance and Managing Multiple Priorities)</p> <p>You must choose, and choose wisely: Asking for, agreeing to, and declining collaboration</p> <p>Mitigating the impact of the pandemic on early career clinical translational researchers and general discussion</p> <p>Wet, Damp, and Dry: negotiating for space with your mentor/mentee in university research settings</p> <p>What it means to engage in team science, and how a recent shift to this model has implications for mentoring relationships</p> <p>What do we actually do when we “mentor” or advise, sponsor, coach, etc.?</p> <p>Introduction of the International Max Plank Research School on the Life Course (LIFE) and other interdisciplinary activities at the UVA College of Arts and Sciences</p> <p>What role does “race” play in your field or in the research your team conducts? Should mentors/mentees have explicit discussions about this?</p> <p>Mentoring Skills – a review of the University of Wisconsin Mentoring Program</p> <p>What translational science is and what a translational scientist is) and how we can mentor one another to lead translational science into the future</p> <p>Being a Mentor and Ally: A Community Discussion</p> <p>What is “translational science” and “translational research”? What does it mean to be a “translational scientist/researcher”? Mentoring the next generation on their journey to becoming translational scientists</p> <p>Perseverance through the resubmission process: how effective mentoring can make the difference</p> <p>Benefit or Burden: LGBTQ+ Inclusion in Research: an exploration of intentionality and its potential payoff</p>